

REMARKS

Claims 1-16 and 18 are currently pending. New claim 18 is supported by original claim 17 and the text related thereto.

Upon reviewing the application, it occurred to the undersigned that the claims presented with the Amendment of October 11, 2005 are confusing and could be viewed as misstating the invention. Specifically, it is believed that steps (e) and (f) are at least partially redundant. In re-reading the original disclosure, after the metal oxide layer is removed by etching, a second semiconductor layer is formed by regrowing the first semiconductor layer starting in the nanosized holes and the mask layer to extend above the nanosized holes and, potentially covering the entire mask layer. In this way, disclosures regarding reduced defect density, particularly the propagation of threading dislocations, is clearly supported.

The undersigned wishes to apologize for the confusion that may have been caused by the earlier claim set.

The non-final Office Action includes a rejection of claims 1-16 under 35 U.S.C. § 103 as allegedly being unpatentable over the Zhang et al. patent publication (US 2003/0010971 A1), in combination with the Tsakalakos et al. patent publication (US 2004/0077156 A1).¹ This rejection is respectfully traversed.

If the undersigned understands the position of the Office, the Office is suggesting that the Zhang et al. patent publication discloses forming nano-scale electronics by forming nano-size holes in an anodized aluminum oxide layer 86, which acts as a mask to create nano-size holes in the silicon dioxide layer. Quantum

¹ The cover sheet of the Office Action indicates that the Action is both final and non-final, but the text of the Office Action indicates that it is non-final and procedurally a non-final Action would be appropriate. Hence, Applicants have treated the Office Action as being non-final.

dots fill the nano-size hole of the silicon dioxide. Thereover, an AlGaAs layer can be formed, according to paragraph 0041 of the Zhang et al. patent publication.

The basic position taken in the Office Action is that paragraph 0041 states that "[i]n some embodiments, the quantum dots 90a, 90b are grown to completely fill the transferred of nanoports 98 in the silicon dioxide layer 96". The Office infers that this means that the quantum dots do not necessarily fill the holes and the AlGaAs deposit layer partially fills the holes.

Claim 1 recites that a second semiconductor layer in and above the mask layer, is formed through regrowth of the first semiconductor layer. There is no teaching or suggestion in the Zhang et al. patent publication. It is noted that the Tsakalakos et al. patent publication is merely applied for teaching growing GaN-based compound semiconductor layers in nano-holes. Hence, even taken in combination, the hypothetical combination of the two references would not teach the recitations appearing in claim 1, for at least the reasons stated above.

In light of the foregoing, Applicants respectfully request reconsideration and allowance of the present application.

Respectfully submitted,

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